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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/647,413 | 08/25/2003 | Moreno Pieralli | 128694/GETS 5311.1 | 3677 |
| 321 | 7590 | 01/10/2005 | EXAMINER | |
| SENNIGER POWERS LEAVITT AND ROEDEL ONE METROPOLITAN SQUARE 16TH FLOOR ST LOUIS, MO 63102 | | | SWARTHOUT, BRENT | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2636 | |

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,413

Applicant(s)

PIERALLI, MORENO

Examiner

Brent A Swarthout

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11,13-17,19-24 and 26-28 is/are rejected.
- 7) ☒ Claim(s) 3,12,18 and 25 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8-25-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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1. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, line 1 "the receiving" has no antecedent basis.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1,2,4,6,7,8,9,11,13,15-17,19-22,24,26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helma et al. in view of Gerhard.

Helma discloses a system for automatically detecting the presence of an obstacle located within an area associated with a railroad grade crossing, comprising transmitter SE, reflector RE, receiver EE and processing means AW for analyzing the received signal to initiate an action (col. 3, line 4), except for specifically stating that the reflector phase modulates a transmitted signal.

Gerhard discloses an object detecting system wherein a transmitter 1 sends a signal into an area to be reflected off reflector 13 which phase modulates the signal, and the reflected signals from the reflector 13 and from the object 2 are received at receiver 3 for analysis.

It would have been obvious to include a phase modulating reflector as suggested by Gerhard in conjunction with a system as disclosed by Helma, in

order that a user could have known the precise location of an obstacle in a hazardous zone.

Regarding claim 2, the received angle characteristics are compared to a characteristic 4 in Gerhard.

Regarding claim 4, both the transmitter and receiver would have been responsive and sensitive to a peak of the processed signal, as well as other components of the signal.

With regard to claims 8-9, choosing specific frequency ranges for operation would have been obvious, merely depending on what type of signal was desired to provide the clearest communication with the least interference for a particular area.

Regarding claim 11, since Helma delivers a status signal when a threshold has been exceeded, a consent action, or no status of alarm would have been given when the received signal did not exceed threshold.

Regarding claim 13 and 15, use of preamplifier and filter are well known in the signal transmission art to boost signals and prevent interference, and use of memory would have also been obvious, in order that a user could have had a record of output status signals.

3. Claims 5,10 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helma et al. in view of Gerhard and Hilleary.

Hilleary discloses providing an alarm when an obstacle is detected in a zone near a railroad crossing, and the use of orthogonal receivers MIR (Fig. 3).

It would have been obvious to use orthogonal receivers and alarm as suggested by Hilleary in conjunction with a system as disclosed by Helma and Gerhard, in order that those in danger of collision with a train could have been warned, and so that a larger area near railroad crossing could have been monitored.

4. Claims 14 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helma et al. in view of Gerhard and Welk.

Welk teaches use of GPS signal to provide an alert of potential collision between an object and a train at a railroad crossing (abstract, Fig. 1).

It would have been obvious to use GPS provided time and position data to prevent a collision at a railroad crossing in a system as disclosed by Helma and Gerhard, in order that warnings would have only been generated when a train was near the crossing, thus eliminating false alarms and creating greater user confidence in the alarm system.

5. Claims 3,12,18 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

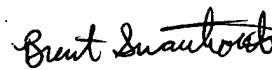
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McEwan and Guena disclose phase modulation systems.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent A Swarthout whose telephone number is 571-272-2979. The examiner can normally be reached on M-F from 6:30 to 4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass, can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Brent A Swarthout
Examiner
Art Unit 2636

**BRENT A. SWARTHOUT
PRIMARY EXAMINER**